PLS_Toolbox 4.1
Quick-Reference Card
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Help and information.

helppls - Context related help on the PLS_Toolbox.
demos - Demo list for the PLS_Toolbox.
evridebug - Checks the PLS_Toolbox installation for problems.
evriinstall - Install Eigenvector Research Product.
evriuninstall - Uninstall an Eigenvector Research toolbox.
evriupdate - Check Eigenvector.com for available PLS_Toolbox updates.
plsver - Displays version information.
<functionname> io - Prints short version of the io.
<functionname> help - Accesses the online help.

Plotting, Analysis Aids, and I/O Functions.

abline - Draws a line on the current axes with a given slope and intercept.
areadr - Reads ascii data and strips header.
autoimport - Automatically imports all standard filetypes.
builddbstr - Builds a database connection string.
dp - Draws a diagonal line on an existing figure.
ellps - Plots an ellipse on an existing figure.
explode - Extracts variables from a structure array to the workspace.
getpidata - Uses the current PI connection to construct a DSO.
gselect - Selects objects in a figure (various selection styles).
hline - Adds horizontal lines to figure at specified locations.
infobox - Display a string in an information box.
loopfilereadr - An example function for reading files in a loop from a directory.
mplot - Automatic creation of subplots and plotting.
mtfreadr - Read AdventaCT Multi-Trace Format (MTF) files.
parsemixed - Parse numerical and text data into a DataSet Object.
pcolormap - Pseudocolor plot with labels and colorbar.
ploteigen - Builds dataset object of eigenvalues/RMSECV information.
plotgui - Interactive data viewer.
plttern - Plots a 2D ternary diagram.
pltternf - Plots a 3D ternary diagram with frequency of occurrence.
querydb - Executes a query on a database defined by connection string.
rwb - Red white and blue color map.
setpath - Modifies and saves current directory to the MATLAB search path.
spcreadr - Reads a Galactic SPC file.
trendtool - Univariate trend analysis tool.
vline - Adds vertical lines to figure at specified locations.
writecsv - Export a DataSet object to a comma-separated values (CSV) file.
xclgetdata - Extracts matrix from an Excel spreadsheet.
xclputdata - Write matrix to an Excel spreadsheet.
xclreadr - Reads an ASCII or .XLS file in as a DataSet Object.
xlsreadr - Reads .XLS files from MS Excel and other spreadsheets.
xyreadr - Reads one or more ASCII XY or XY... files
yscale - Rescales the y-axis limits on each subplot in a figure.
zline - Adds vertical lines to 3D figure at specified locations.

Data Editing, Scaling, and Preprocessing.

auto - Autoscales matrix to mean zero unit variance.
baseline - Subtracts a polynomial baseline offset from spectra.
baselinew - Baseline using windowed polynomial filter.
coadd - Reduce resolution through combination of adjacent variables or samples.
delsamps - Deletes samples (rows) or variables (columns) from data matrices.
editds - Editor for DataSet Objects.
glsw - Generalized least-squares weighting/preprocessing.
gscale - Group/block scaling for a single or multiple blocks.
gscaler - Applies group/block scaling to submatrices of a single matrix.
lamsel - Determines indices of wavelength axes in specified ranges.
logdecay - Mean centers and variance scales a matrix using the log decay of the variable axis.
lsq2top - Fits a polynomial to the top/(bottom) of data.
mdcheck - Missing Data Checker and infiller.
med2top - Fits a constant to top/(bottom) of data.
medcn - Median center scales matrix to median zero.
mncn - Scale matrix to mean zero.
mscorr - Multiplicative scatter/signal correction (MSC).
normaliz - Normalize rows of matrix.
oscapp - Applies OSC model to new data.
osccalc - Calculates orthogonal signal correction (OSC).
polyinterp - Polynomial interpolation, smoothing, and differentiation.
preprocess - Selection and application of standard preprocessing structures.
preprouser - User-defined preprocessing methods.
registerspec - Shift spectra based on expected peak locations.
rescale - Scales data back to original scaling.
savgol - Savitzky-Golay smoothing and differentiation.
savgolcv - Cross-validation for Savitzky-Golay smoothing and differentiation.
scale - Scales data using specified means and std. devs.
shuffle - Randomly re-orders matrix and multiple blocks rows.
snv - Standard normal variate scaling.
specedit - GUI for selecting spectral regions on a plot.
super_reduce - Eliminates highly correlated variables.
unfoldm - Rearranges (unfolds) an augmented matrix to row vectors.
unfoldmw - Unfolds multiway arrays along specified order.
wlsbaseline - Weighted least squares baseline function.

Statistics, ANOVA, Experimental design.

anova1w - One-way analysis of variance.
anova2w - Two-way analysis of variance.
corrmap - Correlation map with variable grouping.
distslct - Selects samples on outside of data space.
doptimal - Selects samples based on D-Optimal criteria.
durbin_watson - Criterion for measure of continuity.
factdes - Full factorial design of experiments.
ffacdes1 - Fractional factorial design of experiments.
ftest - F test and inverse F test statistic.
percentile - Finds percentile point (similar to MEDIAN).
stdsslct - Selects data subsets (often for use in standardization).
ttestp - Evaluates t-distribution and its inverse.

Principal Components Analysis

chilimit - Chi-squared confidence limits from sum-of-squares residuals.
datahat - Calculates the model estimate and residuals of the data.
estimatefactors - Estimate number of significant factors in multivariate data.
jmlimit - Confidence limits for Q residuals via Jackson-Mudholkar.
mlpca - Maximum likelihood principal components analysis.
pca - Principal components analysis.
pcaengine - Principal Components Analysis computational engine.
pcapro - Projects new data on old principal components model.
plotloads - Extract and display loadings information from a model structure.
plotscores - Extract and display score information from a model.
residuallimit - Estimates confidence limits for sum squared residuals.
ssqtable - Displays variance captured table for model.
subgroupcl - Displays a confidence ellipse for points in a two-dimensional plot.
tsqlim - Confidence limits for Hotelling's T^2.
tsqmtx - Calculates matrix for T^2 contributions for PCA.
varcap - Variance captured for each variable in PCA model.
varimax - Orthogonal rotation of loadings.

Curve Resolution and Evolving Factor Analysis

als - Alternating Least Squares computational engine.
comparelcms_simengine - Calculational Engine for comparelcms.
comparelcms_sim_interactive - Interactive interface for COMPARELCMS.
coda_dw_interactive - Interactive version of CODA_DW.
coda_dw - Calculates values for the Durbin_Watson criterion of columns of data set.
evolvfa - Evolving factor analysis (forward and reverse).
ewfa - Evolving window factor analysis.
mcr - Multivariate curve resolution with constraints.
purity - Self-modeling mixture analysis method based on purity of variables or spectra.
purityengine - calculates purity values of columns of data set.
wtfa - Window target factor analysis.

Cluster Analysis and Classification Functions

class2logical - Create a PLSDA logical block from class assignments.
cluster - KNN and K-means cluster analysis with dendrograms.
gcluster - GUI function for use with CLUSTER.
discrimprob - Discriminate probabilities for continuous predicted values.
knn - K-nearest neighbor classifier.
plsda - Partial least squares discriminant analysis.
plsdaroc - Calculate and display ROC curves for PLSDA model.
plsdthres - Bayesian threshold determination for PLS Discriminate Analysis.
simca - Soft Independent Method of Class Analogy.

Multi-way and Image Functions

alignmat - Alignment of matrices and N-way arrays.
corcondia - Evaluates consistency of PARAFAC model.
coreanal - Analysis of the core array of a Tucker model.
corecalc - Calculate the Tucker3 core given the data array and loadings.
gram - Generalized rank annihilation method.
modelviewer - Visualization tool for multi-way models.
mpca - Multi-way (unfold) principal components analysis.
nassign - Generic subscript assignment indexing for n-way arrays.
ncrossval - Cross-validation for multilinear PLS (N-PLS).
nindex - Generic subscript indexing for n-way arrays.
npls - Multilinear-PLS (N-PLS) for true multi-way regression.
npreprocess - Preprocessing of multi-way arrays.
outerm - Computes outer product of any number of vectors.
parafac - Parallel factor analysis for n-way arrays.
parafac2 - Parallel factor analysis for unevenly sized n-way arrays.
tld - Trilinear decomposition.
tucker - Analysis for n-way arrays.

Linear and Non-Linear Regression.

cr - Continuum Regression for multivariate y.
crcvrnd - Cross-validation for continuum regression.
crossval - Cross-validation for decomposition and linear regression.
fastnnls - Fast non-negative least squares.
figmerit - Analytical figures of merit for multivariate calibration.
frpcr - Full-ratio PCR calibration and prediction.
frpcrengine - Engine for full-ratio PCR regression.
leverag - Calculate sample leverages.
lwrpred - Predictions based on locally weighted regression models.
lwrxy - Predictions based on lwr models with y-distance weighting.
mlr - Multiple Linear Regression for multivariate Y.
mlrengine - Multiple Linear Regression computational engine.
modlpred - Predictions using standard model structures.
modlrder - Displays model info for standard model structures.
nippls - NIPALS Partial Least Squares computational engine.
pcr - Principal components regression for multivariate Y.
pcrengine - Principal Component Regression computational engine.
pls - Partial least squares regression for multivariate Y.
plsnipal - NIPALS algorithm for one PLS latent variable.
polypls - PLS regression with polynomial inner-relation.
regcon - Converts regression model to y = ax + b form.
ridge - Ridge regression by Hoerl-Kennard-Baldwin.
ridgecv - Ridge regression by cross validation.
rinverse - Calculate pseudo inverse for PLS, PCR and RR models.
rmse - Calculate Root Mean Square Error.
simpls - Partial Least Squares computational engine using SIMPLS algorithm.
varcapy - Calculate percent y-block variance captured by a PLS regression model.
vip - Calculate Variable Importance in Projection from regression model.

Multivariate Instrument Standardization.

caltransfer - Create or apply calibration and instrument transfer models.
deresolv - Changes high resolution spectra to low resolution.
stdfir - Standardization based on FIR modelling.
stdgen - Piecewise and direct standardization transform generator.
stdize - Applies transform from STDGEN to new spectra.

Variable Selection

calibsel - Statistical procedure for variable selection.
fullsearch - Exhaustive Search Algorithm for small problems.
gaselctr - Genetic algorithm for variable selection with PLS.
genalg - Genetic Algorithm for Variable Selection.
genalgplot - Plot GA results using selected variable plot, color-coded by RMSECV.
ipls - Interval PLS variable selection.

MSPC and Finite Impulse Response Models.

autocor - Auto-correlation function for time series data.
crosscor - Cross-correlation function for time series data.
fir2ss - Transform FIR model into equivalent state space model.
plspulsm - Identifies FIR dynamics models for MISO systems.
plsrsgcv - Generate PLS models for MSPC with cross-validation.
plsrsgn - Generates a matrix of PLS models for MSPC.
replace - Replaces variables based on PCA or PLS models.
wrtpulse - Create input/output matrices for dynamic model identification.

Model Utilities

browse - PLS_Toolbox Toolbar and Workspace browser.
choosencomp - GUI to select number of components from SSQ table.
compressmodel - Remove references to unused variables from a model.
copydsfields - Copies informational fields between datasets and/or models.
matchvars - Align variables of a dataset to allow prediction with a model.
modelselector - Create or apply a model selector model.
modelstruct - Constructs an empty model structure.
reviewmodel - Examines a standard model structure for typical problems.
updatemod - Update model structure to be compatible with the current version.

Programming Utilities

besttime - Returns a string describing the time interval provided (in seconds).
comparevars - Compares two variables of any type.
encode - Translates a variable into matlab-executable code.
erdlgpls - Error dialog.
evrirelease - Returns Eigenvector product release number.
exportfigure - Automatically export figures to an external program.
figbrowser - Browser with icons of all Matlab figures.
findindx - Finds the index of the array element closest to value r.
getdatasource - Extract summary dataset info.
getmlversion - Returns current Matlab version as an integer.
getplspref - Get overriding options (preferences) for PLS_Toolbox functions.
lddlgpls - Dialog to load variable from workspace or MAT file.
moveobj - Interactively reposition graphics objects.
helppls - Context related help on the PLS_Toolbox.
reversebytes - Flips order of bytes in a word.
setplspref - Set overriding options (preferences) for PLS_Toolbox functions.
string_x - Add backslash before troublesome TeX characters.
svdlgpls - Dialog to save variable to workspace or MAT file.

PLS_Toolbox Demonstrations.

<functionname> demo - Runs a short demo for each function.
datasetdemo - Demonstrates use of the dataset object.
demos - Demo list for the PLS_Toolbox.
linmodeldemo - Demo of the CROSSVAL, MODLRDER, PCR, PLS, PREPROCESS and functions.
projdemo - Demo of the MLR, PCR, and PLS regression vectors.
statdemo - Elementary stats, t test, F test and AVOVA.
stddemo - Demo of the STDSSLCT, STDGEN, and OSCCALC functions.

PLS_Toolbox Test Data Sets.

alcohol - Biological fluid analysis of alcoholics for discriminant analysis.
aminoacids - Fluorescence EEM of 5 samples for PARAFAC.
arch - Archeological artifact data set for PCA amd SIMCA examples.
bread - Sensory evaluation of breads.
dorrit - EEM of 27 samples with 4 flourophores for PARAFAC.
etchdata - Data from semiconductor metal etch.
fia - Flow Injection Analysis of hydroxy-benzaldehydes.
halddata - Hald cement curing data.
nir_data - NIR spectra of pseudo gasoline samples for STDDEMO.
nmr_data - NMR data for GRAM demo.
oesdata - Optical emission spectra from metal etch.
paint - Non-linear paint formulation data.
pcadata - Slurry Fed Ceramic Melter data.
plsdata - SFCM data for PCR and PLS demos.
plslogo - Generates PLS_Toolbox CR surface logo.
projdat - Projection demo data for PROJDEMO.
pulsdata - Time series data for PLSPULSM demo.
replacedata - SFCM data for REPLACEDEMO.
sawdata - Surface acoustic wave sensor data for organic vapors.
smbread - Images of bread at 5 wavelengths.
statdata - Data sets for ANOVA and statistics STATDEMO.
sugar - Fluorescence EEM N-way data set.
wine - Wine data set for PCA example.
areadrdemtext.txt - Text file used by AREADRDEMO.
xclreadrdata.txt - Text file used by XCLREADRDEMO.
Redbeerdata.xls - Example spreadsheet for "Intro to MATLAB".

Frequently Asked Questions:
http://software.eigenvector.com/faq/

Request Help at:
helpdesk@eigenvector.com

Send the output of the commands:
evridebug
ver
path